

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 05-174768

(43)Date of publication of application : 13.07.1993

(51)Int.Cl.

H01J 37/244

H01J 37/18

H01J 37/28

(21)Application number : 03-053811

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(22)Date of filing : 26.02.1991

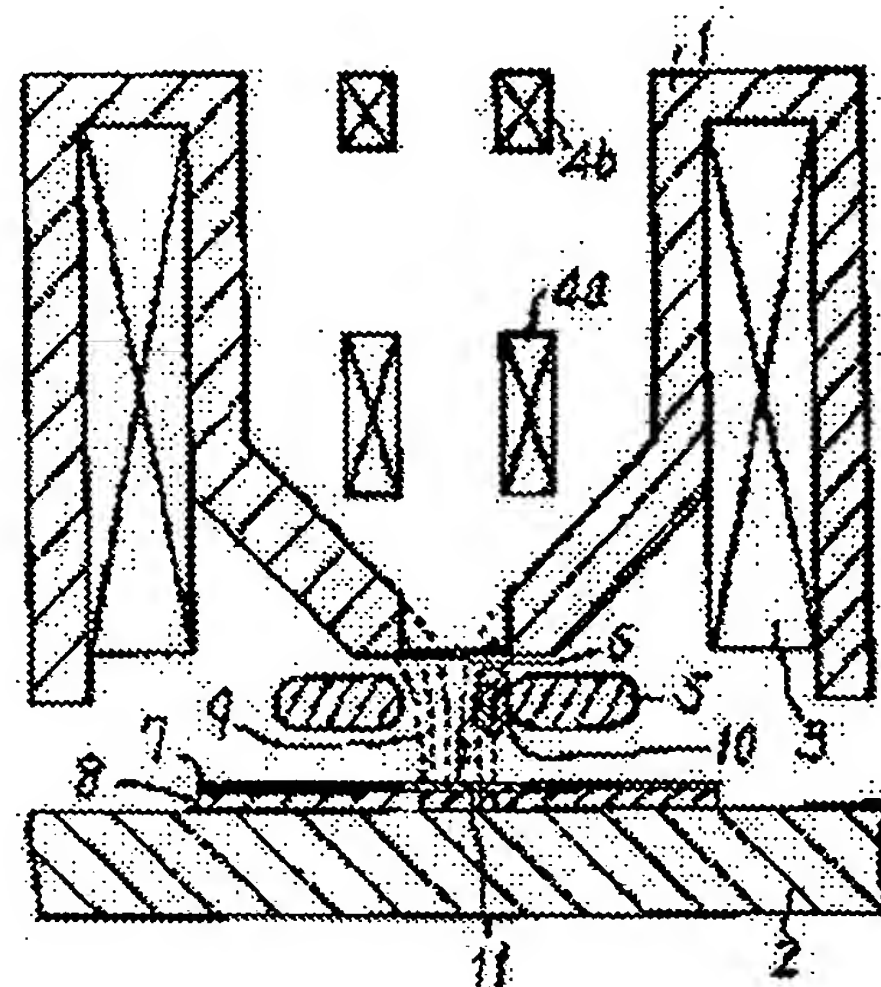
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## (54) SCANNING ELECTRON MICROSCOPE OF ENVIRONMENT CONTROL TYPE

### (57)Abstract:

**PURPOSE:** To observe an electrical insulative object without electrostatic charge even with an enlarged acceleration voltage and improve the signal-noise ratio with impression of a high voltage by installing a secondary electron sensor in a location closest to the beam incident point on a specimen.

**CONSTITUTION:** A ring-shaped secondary electron sensor 5 is installed between a hole-equipped magnetic pole 1 and a holeless plane magnetic pole 2 in such a way as coaxial with a pressure limiting opening 6. When an electron beam is left incident to the beam incident point 11 on a specimen 7, secondary electrons are emitted according to the surface condition of the incident point 11, follow a meandering track 10 in the form being trapped by the magnetic flux 9 of an objective lens, make motions while running against gas on the way, lose the potential energy, and enter the sensor 5. Because the sensor 5 is located closer to the point 11 than the opening 6, positive ions generated around the sensor 5 can effectively neutralize electric charges at the surface of the specimen 7 charged negatively. Even though an electron beam having a large acceleration voltage is used, therefore, it is practicable to observe any electrical insulative object without electrostatic charge, and further the signal-noise ratio can be enhanced to a great extent.



## LEGAL STATUS

[Date of request for examination] 13.02.1998

[Date of sending the examiner's decision of rejection] 16.01.2001

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]